

Applic. No.: 10/657,603

Amdt. Dated July 29, 2005

Reply to Office action of June 14, 2005

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of claims:

1 (previously presented). A fingerprint sensor, comprising:

a contact surface for contacting an underside of a finger and for recording a fingerprint of the finger;

a plurality of sensor electrodes mounted below said contact surface; and

at least one protective electrode mounted on or in said contact surface, said protective electrode incompletely covering said plurality of sensor electrodes;

said plurality of sensor electrodes having a first AC voltage being applied at a prescribed frequency;

said protective electrode having a second AC voltage being substantially applied at the prescribed frequency;

the second AC voltage having an amplitude being greater than a supply voltage for the fingerprint sensor.

Applic. No.: 10/657,603

Amdt. Dated July 29, 2005

Reply to Office action of June 14, 2005

2 (original). The fingerprint sensor according to claim 1, wherein said protective electrode is formed as a grating, a grid, or a strip.

3 (original). The fingerprint sensor according to claim 1, wherein:

the first AC voltage has a settable amplitude and the amplitude of the second AC voltage is settable; and

the amplitude of the second AC voltage is greater than the amplitude of the first AC voltage.

4 (original). A method for optimizing the sensitivity of a fingerprint sensor, which comprises:

providing the fingerprint sensor according to claim 1;

setting at least one of the amplitude of the second AC voltage and a phase of the second AC voltage such that a sensitivity of the fingerprint sensor assumes a maximum value and the sensitivity is determined by a local resolution of the fingerprint sensor.

Applic. No.: 10/657,603

Amdt. Dated July 29, 2005

Reply to Office action of June 14, 2005

5 (currently amended). A fingerprint sensor, comprising:

a contact surface for contacting an underside of a finger and for recording a fingerprint of the finger;

a plurality of sensor electrodes mounted below said contact surface; and

at least one protective electrode mounted on or in said contact surface, said protective electrode incompletely covering said plurality of sensor electrodes;

said plurality of sensor electrodes having a first AC voltage being applied at a prescribed frequency;

said protective electrode having a second AC voltage being substantially applied at the prescribed frequency;

the first AC voltage having a settable phase and the second AC voltage having a settable phase;

the first AC voltage having a settable amplitude and the second AC voltage haing a settable amplitude;

Applic. No.: 10/657,603

Amdt. Dated July 29, 2005

Reply to Office action of June 14, 2005

the amplitude of the second AC voltage being greater than the amplitude of the first AC voltage.

6 (original). The fingerprint sensor according to claim 5, wherein said protective electrode is formed as a grating, a grid, or a strip.

7 (cancelled).

8 (original). A method for optimizing the sensitivity of a fingerprint sensor, which comprises:

providing the fingerprint sensor according to claim 5;

setting at least one of an amplitude of the second AC voltage and a phase of the second AC voltage such that a sensitivity of the fingerprint sensor assumes a maximum value and the sensitivity is determined by a local resolution of the fingerprint sensor.

9 (original). A fingerprint sensor circuit, comprising: a fingerprint sensor including a contact surface for contacting an underside of a finger and for recording a fingerprint of the finger, a plurality of sensor electrodes mounted below said contact surface, and at least one

Applic. No.: 10/657,603

Amdt. Dated July 29, 2005

Reply to Office action of June 14, 2005

protective electrode mounted on or in said contact surface,
said protective electrode incompletely covering said plurality
of sensor electrodes;

a first AC voltage at a prescribed frequency being applied to
said plurality of sensor electrodes;

a second AC voltage essentially at the prescribed frequency
being applied to said protective electrode; and

a supply voltage for the fingerprint sensor;

the second AC voltage having an amplitude being greater than
the supply voltage.

10 (original). The fingerprint sensor circuit according to
claim 9, wherein said protective electrode is formed as a
grating, a grid, or a strip.

11 (original). The fingerprint sensor circuit according to
claim 9, wherein:

the first AC voltage has a settable amplitude and the
amplitude of the second AC voltage is settable; and

Applic. No.: 10/657,603

Amdt. Dated July 29, 2005

Reply to Office action of June 14, 2005

the amplitude of the second AC voltage is greater than the amplitude of the first AC voltage.

12 (original). A method for optimizing the sensitivity of a fingerprint sensor, which comprises:

providing the fingerprint sensor circuit according to claim 9;

setting at least one of the amplitude of the second AC voltage and a phase of the second AC voltage such that a sensitivity of the fingerprint sensor assumes a maximum value and the sensitivity is determined by a local resolution of the fingerprint sensor.

13 (currently amended). A fingerprint sensor circuit, comprising:

a fingerprint sensor including a contact surface for contacting an underside of a finger and for recording a fingerprint of the finger, a plurality of sensor electrodes mounted below said contact surface, and at least one protective electrode mounted on or in said contact surface, said protective electrode incompletely covering said plurality of sensor electrodes;

Applic. No.: 10/657,603

Amdt. Dated July 29, 2005

Reply to Office action of June 14, 2005

a first AC voltage at a prescribed frequency being applied to said plurality of sensor electrodes; and

a second AC voltage essentially at the prescribed frequency being applied to said protective electrode;

the first AC voltage having a settable phase and the second AC voltage having a settable phase;

the first AC voltage having a settable amplitude and the second AC voltage having a settable amplitude;

the amplitude of the second AC voltage being greater than the amplitude of the first AC voltage.

14 (original). The fingerprint sensor circuit according to claim 13, wherein said protective electrode is formed as a grating, a grid, or a strip.

15 (cancelled).

16 (original). A method for optimizing the sensitivity of a fingerprint sensor, which comprises:

providing the fingerprint sensor according to claim 13;

Applic. No.: 10/657,603

Amdt. Dated July 29, 2005

Reply to Office action of June 14, 2005

setting at least one of an amplitude of the second AC voltage and a phase of the second AC voltage such that a sensitivity of the fingerprint sensor assumes a maximum value and the sensitivity is determined by a local resolution of the fingerprint sensor.

17 (cancelled).